

Facilities Quarterly

ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY ♦ FACILITIES DEPARTMENT NEWSLETTER

OCTOBER
2001

FACILITIES EMPLOYEES RECEIVE FEDERAL AWARDS

In what is becoming almost an annual event, Facilities staff have collected two Federal Energy and Water Management Awards, to be presented at an awards ceremony this month in Washington, D.C.

The awards went to Plumbing Shop supervisor Tom Reese and his crew—Pat Aki, Butch Holeman, Scott Harvest and Larry Davis—for their work on water-saving fixtures for the Lab's restrooms, and to Steve Greenberg, who was energy management engineer for NERSC's Oakland Scientific Facility

(OSF) construction project.

The award to Reese et al. recognizes their efforts in completing water-efficiency retrofits in restroom areas throughout Berkeley Lab. The retrofits replaced conventional tank toilets and toilet bowls with models that use only 1.6 gallon per flush and retrofitted "flushometer" toilets and urinals to restrict the flush volume to approximately 2.0 and 1.0 gallons, respectively. In addition, faucets received new aerators that restrict flow to 2.0 gallons per minute. In FY 2000, these improvements saved

continued on page 6

OCTOBER IS ENERGY AWARENESS MONTH

Remember all those stage III electrical emergency alerts? It may seem like the distant past, but our energy crisis is still with us, and it's still important to save energy. In recognition of the fact that every watt counts, the President recently signed Executive Order 13221, aimed at eliminating "power vampires", standby power devices that draw power even when appliances are turned off. The order generally requires Federal agencies to purchase appliances that use less than one watt of standby power. Here are some other tips for saving those precious watts:

- Turn off printers, copiers, personal computers, and monitors when they are idle.
- Turn off lights when leaving a room for more than a minute.
- Turn on task lights; turn off general and overhead lights.

continued on page 2

INSIDE

From the Facilities Manager	2
WOW Completes Fifth Year	2
The Call—Don't Miss It!	2
Focus on Service: Holiday Shutdown	3
Compliments	3
Construction and You	4
Projects	5

Facilities Quarterly is available online at <http://www.lbl.gov/Workplace/Facilities>.



The Federal Energy Management Program (FEMP) is providing posters and other materials to Federal agencies to promote energy conservation. These can be ordered on line at <http://www.eren.doe.gov/femp/ordermaterials.html#awareness> or by contacting the Energy Efficiency and Renewable Energy Clearinghouse at 1-800-DOE-EREC (363-3732). More info on Energy Awareness Month is available at femp/newsevents/energy-aware.html.

WOW COMPLETES FIFTH YEAR

By Bill Birbeck

Facilities' Workers Observing Workers (WOW) program is almost five years old. Despite the inevitable challenges, the results of this behavior-based safety program so far have been decidedly positive.

The program's first 18 months saw a 25-percent reduction in recordable accidents among Facilities career employees. Although a leveling-off occurred when the original steering committee members were replaced with a new group of volunteers, the downward trend in accidents resumed as the new committee members settled

into their roles and responsibilities.

Over the past year, the accident rate has declined another 25 percent.

Ever since its inception, the WOW program has been run from the ground up—by the employees who do the work, rather than by management. This approach, in which one employee, the "observer" or "coach," takes time out from his or her work to critique another employee's on-the-job safety, has been well-received.

This high level of acceptance is in part the result of the confidentiality of the observation process, which ensures

continued on page 6

THE CALL— DON'T MISS IT!

If you need to install a new lab sink, remodel a conference room, add a fire exit, repair exterior stairs, install a bike rack, or accomplish other small projects, you must heed "the Call."

Every year Berkeley Lab carries out approximately 100 small to moderately large infrastructure projects. The Call process gives Berkeley Lab's programmatic and infrastructure organizations the opportunity to examine their operational needs and include their project proposals in the budget process. Beginning this month, the Call will determine which projects obtain funding in FY 2003.

Dick Dicely of Facilities Planning emphasizes the importance of submitting projects at the beginning of the process. "Every year, around March or April, someone announces 'I need money to do this', and it's a very worthy project, but the money's not there."

The period from October to December is a window of opportunity for anybody with a project in mind to contact his or her Divisional Call Coordinator.

A current list of Division Call Coordinators is available on the web at <http://www.lbl.gov/Workplace/Facilities/Planning/Library/callcoord.html>.

ENERGY AWARENESS

continued from page 1

- Turn off display and decorative lights.
- Activate and use the Energy Star® "power saver" and "sleep" features.
- Shut off coffee pots, radios, fans, and other appliances.
- Set thermostats to pre-cool spaces at off-peak times.
- Loosen clothing and dress casually during the warmest hours.
- Make certain vent grills are not blocked by plants, books, or furnishings.
- Close fume hood sashes.



FROM THE FACILITIES MANAGER...

We have done it! Our recordable injuries were reduced 40% this year compared to FY 2000. My congratulations to all. Those who rate special mention

include Janice Sexson, this year's chair of the WOW steering committee, Bill Birbeck, the department safety coordinator, and Loretta Valentine, the department construction safety officer. I urge all to continue their dedication to safety and reduce the injury rate again in FY 2002.

The annual Shares campaign will be conducted next month. Shares incorporates our opportunity to give to the United Way, several smaller combined charities, a collection of local organizations, and the September 11 Fund. This is your chance to participate in the local efforts to help others.

We have recently received approval of mission need (CD-0) for a new laboratory building for the Environmental Energy Technologies Division. We now will develop the conceptual design report to obtain design funding. We are also finishing the CDR for the Molecular Foundry to be built in Old Town. Our efforts to obtain funding for the demolition and decontamination of the Bevatron continue; but in all likelihood we will continue working on small projects funded on an annual basis. The 2-MW generator is in place with just minor work to be completed and the Building 77 seismic retrofit will soon be completed. The construction phase of the domestic water line upgrade will start this year and we will also see the deconstruction of Building 29.

In closing, I again urge you to concentrate on safety in the coming year.

Bob Camper

Work **SMART**

Work **SAFELY**

If it is not safe, **STOP** the work.

FACILITIES DEPARTMENT

Facilities provides Berkeley Lab with a full range of architectural and engineering, construction, and maintenance services for new facilities and for modification and support of existing facilities.

Architectural and engineering services include facility planning, programming, design, engineering, project management, and construction management. Maintenance and construction functions include custodial, gardening, and lighting services; operation, service, and repair or replacement of equipment and utility systems; and construction of modifications, alterations, and additions to buildings, equipment, facilities, and utilities. Additional

services include bus and fleet management, mail distribution, stores distribution, property management, property disposal, cafeteria operations, and electronics repair.

Ongoing Facilities activities include renewal and upgrade of site utility systems and building equipment; preparation of environmental planning studies; in-house energy management; space planning; and assurance of Laboratory compliance with appropriate facilities-related regulations and with University and DOE policies and procedures.

The Work Request Center expedites facility-related work requests, answers questions, and provides support for facility-related needs.

FOCUS ON SERVICE: HOLIDAY SHUTDOWN

Though the holiday season is not yet upon us, Facilities Operations and Maintenance Manager Don Weber and his staff are already preparing for the annual shutdown. Starting on Friday, December 21 at 6:00 pm, Facilities will curtail utility services to about 70 Berkeley Lab buildings for the duration of the holiday break, which ends on Wednesday, January 2. In addition to planning shutdown and maintenance activities, early preparations also focus on identifying the needs of those researchers whose buildings or equipment need special attention, or who will be onsite during the break.

The main benefit of the shutdown is energy savings. According to Facilities utility analyst Toni Reaves, the Lab saves around \$18,000 in energy and other utility costs over the break. Much of the savings results from reduction of space temperatures to 55 degrees F, reduction of building supply air, and securing of fume hood sashes. Weber points out that

every dollar saved in utility costs is a dollar earned for research. "To maximize energy conservation," says Weber, "it's important that we shut down all unneeded building lighting, heating, ventilation and air conditioning systems, cooling towers, and process hot and cold water pumping systems. 'Turning off' research environment and process conditioning and vacuum systems, wherever practicable, is very helpful in our cost saving effort."

Although Weber encourages researchers to conserve energy, Facilities makes every effort to support researchers who have special needs, such as maintaining room temperature and utility services or monitoring of experiments. Researchers needing special monitoring of experiments should contact their building managers. It's also important to let your building manager know of changes in requirements since the 2000 shutdown. "Instruc-

continued on page 6

COMPLIMENTS

David Shuh, a senior staff scientist in the Chemical Science Division, passes along his thanks for an "excellent and speedy" lab and office renovation in 70A-2223. Mike Crofoot and his carpenters, who made drywall improvements and installed custom shelves, were "excellent." Paint Shop personnel, and in particular Joe Cullen, did a "marvelous job transforming a forty year old room into a nice, bright office." Says Shuh, "There was no interruption of my staff or their activities during the work. Room 70A-2223 was actually cleaner upon completion of the project than it was before the work was initiated."

Robert Fox, of the Environmental Services Group, writes of the "diligent work" of Mark Huebschle, James Mankini, and Manoj Jha, who "through their persistence" avoided an unnecessary and expensive repair by locating a leak in the Building 2 secondary containment acid waste piping. Fox also notes the role of project manager Richard Stanton, who modified the scope of work on the fly and canceled the design phase for the work-around when the possibility of repair became promising.

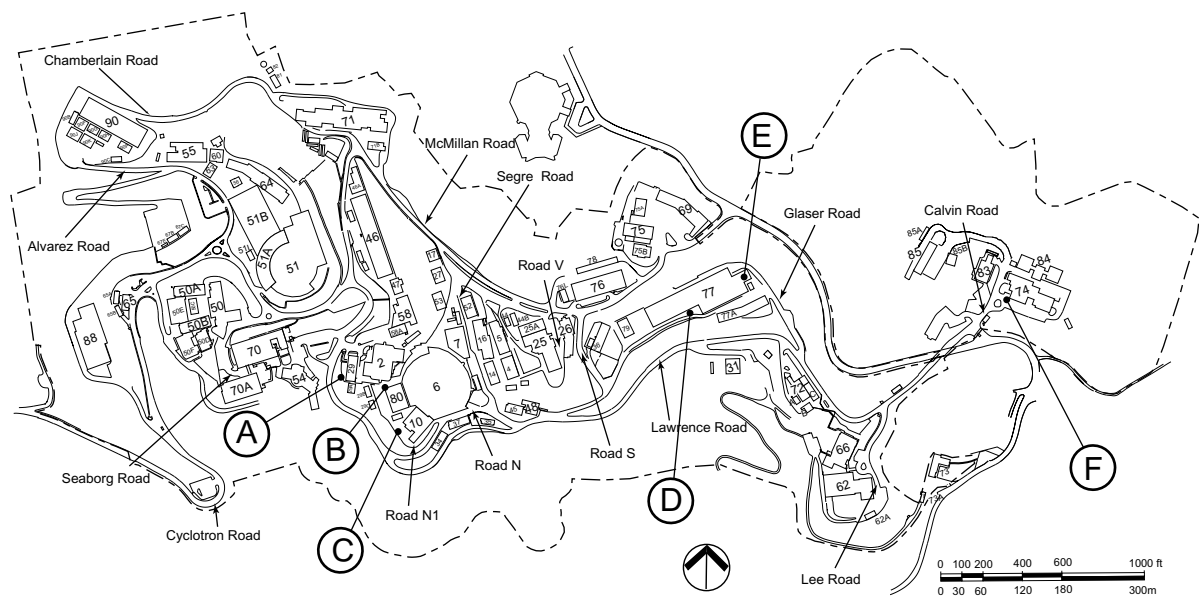
WORK REQUEST CENTER

Telephone	6274
Fax	7805
E-Mail	WRC@lbl.gov
Mailstop	76-222
Web	web3.lbl.gov/wrc

WRC welcomes questions or comments about Facilities Quarterly.

CONSTRUCTION AND YOU

Current construction projects affecting parking, or vehicular or pedestrian circulation



Project Contacts. The name in parentheses after each project is the Project Manager (PM) or other person who is responsible for project oversight: coordinating all phases from design through construction; controlling cost, scope and schedule; and ensuring client satisfaction. This person will be happy to answer any questions about the project.

A

Building 29 Disassembly

OCT	NOV	DEC
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Parking between Building 29 and Building 2 will be used for construction activities. Pedestrian traffic will be rerouted in the area around Building 29. (Richard Stanton, x6221)

Bldg 77: Rehabilitation of Building Structure and Systems

OCT	NOV	DEC
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D

Construction is in progress around the building perimeter and in selected areas within the building. Laydown areas will be located adjacent to Building 77 and Glaser Road. (Bill Wu, x5216)

B

Bldg 2: Ventilation Upgrade Project

OCT	NOV	DEC
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Parking spaces along the south side of Bldg 2 will be reserved for contractor use. (Richard Stanton, x6221)

Bldg 77-142: Clean Room Installation

OCT	NOV	DEC
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E

Project completion is scheduled for October. Location of laydown areas and contractor parking area will be adjacent to Building 77. (Bill Wu, x5216)

C

Bldg 80: Room 109 Modifications

OCT	NOV	DEC
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Parking spaces along the west side of Building 10 will be reserved for contractor use. (Richard Stanton, x6221)

Bldg 74: Expansion of Annual Holding Facility

OCT	NOV	DEC
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F

Parking spaces near the southwest corner of Building 74 will be reserved for contractor parking and laydown areas. (Richard Stanton, x6221)

“CAUTION—CONSTRUCTION AREA”
Construction barricades and warnings are there for your protection. Under no circumstances should you cross a construction barricade, or disobey posted warnings or directions. Contact the Project Manager for escorted access to construction areas.

ON THE DRAWING BOARD

projects in study or conceptual design

Building 77, Rehabilitation of Building Structure and Systems, Phase 2

This project will correct mechanical, electrical and architectural deficiencies in Buildings 77 and 77A. The conceptual design phase is in progress. Funding will be requested for FY 2003. (Bill Wu, x5216)

Energy Efficiency and Electric Reliability Laboratory

Conceptual planning is under way for a new 2,000 sq meter (29,000 sq ft) building to be located in front of Building 90. The new building will incorporate sustainable design and leading-edge energy-efficiency technologies. (Richard Stanton, x6221)

Rehabilitation of Site Mechanical Utilities, Phase 2

This project will extend the useful lives of Berkeley Lab's natural gas, low conductivity water (LCW), compressed air, and storm drain systems. All service risers in the natural gas system will be replaced with nonmetallic pipe. LCW system aluminum pipe will be replaced with stainless-steel pipe. Cathodic protection will be added to the compressed air system. Steel pipe in the storm drain system will be replaced or relined. Facilities has prepared a conceptual design report for FY2002 funding consideration. (Dan Galvez, x6213)

Research Support Building

Planning is going forward on a new 2,900 sq m (30,000-sq ft) building that will house key Berkeley Lab administrative functions now scattered across the site. This "Town Center" will be located on the site of Building 29, which will be demolished. Its central location will allow efficient administration and easy access for all staff and guest researchers. (Richard Stanton, x6221)

IN PROGRESS

funded projects

2-MW Diesel-Engine Driven Generator

Installation of a new 12 kV auxiliary power generator is in progress. Located behind Bldg 64, the generator is designed to absorb 15% of Berkeley Lab's electrical demand in the event of a rolling blackout (see FQ 7/01). (Chuck Taberski, x6076)

Bldg 2: Ventilation Improvements

This project will upgrade the heating, ventilation and air conditioning system in Building 2 to provide improved temperature control, improved pressure control and increased exhaust air capacity. (Richard Stanton, x6221)

Bldg 6: Sector 4 Support Building

Project design is in progress for an equipment staging area for Beamline 4. This 100 sq m (1,100 sq ft) single-story addition will be located between buildings 10 and 80, on the west side of Building 6. (Dan Galvez, x6213)

Bldg 29: Disassembly of Building 29

This project will disassemble Building 29, which has been condemned and vacated. The project will include retrieval of building elements that can be reused by LBNL organizations or offsite ventors. (Richard Stanton, x6221)

Bldg 74: Animal Holding Facility Expansion

This project will convert Building 74 rooms 223, 227, and 231 from wet lab use to animal holding rooms. Room 235 will be modified for use as a procedure room. The work includes demolition, HVAC, electrical, plumbing, painting, doors, and hardware. (Richard Stanton, x6221)

Bldg 77: Rehabilitation of Building Structure and Systems

Construction started in November 2000. This project will arrest differential settlement of Building 77, replace building cross bracing, and realign bridge crane runways. (Bill Wu, x5216)

Bldg 80: ALS Modifications to Room 80-109

New wall openings, with rollup doors, will be installed in Building 80 room 109 to provide additional ALS beamline endstation space, while maintaining ALS perimeter access walkways. (Richard Stanton, x6221)

Grizzly Substation Improvement

Amelco Electric, under contract to the University of California, has completed all improvements to the Grizzly Substation except replacement of the two main 115-kV circuit breakers. These are expected to be delivered in November 2001. The substation is de-energized, and all LBNL electrical power is being supplied by the University's new Hill Area Substation, located at the corner of Road S and Glaser. (See article in *Facilities Quarterly*, 7/2000). (Chuck Taberski, x6076)

Sitewide Water Distribution Upgrade, Phase 1

Much of Berkeley Lab's fresh-water supply system has been in place for over 30 years. This project will replace about 0.9 mile (1.5 km) of cast iron pipe and upgrade the remaining 5 miles (8 km) of pipe with corrosion protection, new valves, pressure reducing stations, improvements to existing water storage tanks, and a new water storage tank in the East Canyon area. Project design is in progress. (Dan Galvez, x6213)

WOW *continued from page 2*

that it isn't abused to single out individuals. The coaches' observations are shared only with the steering committee. Based on tabulated data of many observations, the committee makes recommendations to management for funding to cover engineering or procedural controls.

To be effective, behavioral based safety programs require an investment of time and support. This can put supervisors in a bind at just those times when safety is of greatest concern: when the workload is heaviest. When crunch time is on, the temptation is strong to cut back on safety observations so that the coaches can do their regular work.

Supervisors have responsibility for the safety of their personnel, and are beneficiaries of the WOW program. Therefore, they have a strong interest in supporting the program objectives.

SHUTDOWN *continued from page 3*

tions received from building managers in 2000 will remain in effect unless we are instructed otherwise," says Weber," "If changes are needed it is important that we receive an accurate, timely response—no later than December 14—so we can ensure that we have adequate equipment and staffing." Those who will be working during the shutdown can help save energy by keeping thermostats low in their own space, using portable heaters and workstation lighting, and keeping windows and doors closed. Bringing a building's central heating up to normal temperature is wasteful if only a small area of the building is

Without their support, the program would be set up to fail.

Up until now, supervisors and managers didn't have a specific role in the WOW program, other than a general requirement to be supportive. However, during September several department managers and supervisors attended a two-day onsite seminar that explored ways to more effectively support the WOW program.

The WOW steering committee followed up by compiling suggestions that came out of the seminar. These will be discussed in an October supervisors' meeting. Their implementation is expected to remove remaining barriers to accident reductions, and the WOW program will benefit from the exchange of ideas.

Another enhancement is also in the offing. In 2002, all observers will be scheduled for a new CD-based, inter-

being used or if the building is only being used for a day or two.

With winter storms and freezes always a possibility—and Murphy's Law in force—Weber believes in being prepared for worst-case scenarios. "We would like to know who is going to be in which buildings in the event of a power failure or other emergency." In the past, winter winds have brought down trees, blocking access roads and damaging equipment. Rains have caused flooding, roofs have leaked, and freezes have burst pipes. In these and other conceivable emergencies, knowing where people are located onsite could be of great importance.

active refresher course. This course will be an annual requirement and will help them brush up on their observational skills. It takes practice to coach another person constructively, so that he or she perceives the observer's comments as positive criticism. The smoother the interaction, the more receptive the person being observed will be to correcting "at-risk" behavior. This program will also teach the observers to more accurately record behavior for tabulation, so that precursory accident-causing trends can be spotted before they become accidents.

Bill Birbeck is Facilities' EH&S Coordinator.

AWARDS *continued from page 1*

almost three million gallons of water and trimmed the Lab's water bill by \$13,000. The project produced further savings through a \$14,000 water conservation rebate from the East Bay Municipal Utility District (EBMUD).


As the Energy Management Engineer for the OSF project, Greenberg was responsible for developing the conceptual design for the mechanical systems, including building HVAC and the robust cooling system for the supercomputers themselves. Working within the project's fast-track schedule and strict budget, Greenberg was able to select equipment and system configurations that minimize operating energy expense. This resulted in estimated energy consumption fully 35 percent lower than with conventional technologies, annual operating savings of over \$100,000, and a lifetime reduction of over 5,600 tons of environmentally harmful emissions.

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